LONG ISLAND LIGHTING COMPANY
SHOREHAM NUCLEAR POWER STATION
P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

JOHN D. LEONARD, JR.
VICE PRESIDENT - NUCLEAR OPERATIONS

SNRC-1397

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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
1717 H Street, N.W.
Washington, D.C. 20555

Submittal of Revision 1 of the Updated Safety Analysis Report;
Revision 3 of the Fire Hazard Analysis Report; and the
10 CFR 50.59 Report for the Period January 1, 1986
through June 7, 1987
Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Gentlemen:

Pursuant to the requirements of 10 CFR 50.71(e)(4) and (5), LILCO submits herewith a signed original and ten (10) copies of pages of text, tables and figures which together constitute Revision 1 of the Shoreham Updated Safety Analysis Report (USAR), current to June 7, 1987. The USAR revisions include technical changes which were processed during the period from June 8, 1986 through June 7, 1987 under the provisions of Title 10 CFR 50.59; certain organizational changes to the utility during the same period; changes to the training program reflecting preparation for INPO Accreditation; and editorial changes to the report.

Additionally, enclosed are a signed original and ten (10) copies of Revision 3 to the Shoreham Fire Hazard Analysis Report (FHAR). This document has been revised to reflect modifications and improvements in fire protection made since issuance of Revision 2 in April 1985. In accordance with the provisions of Topic (F) of Generic Letter 86-10 (Implementation of Fire Protection Requirements), this Revision 3 of the FHAR will be incorporated by reference into Section 9.5.1.1 of the Shoreham USAR.

Further, under cover of this letter, LILCO forwards its Shoreham Nuclear Power Station 10 CFR 50.59 Report. Section 50.59 requires that this report list those changes, tests and experiments which do not, by safety evaluation, include an unreviewed safety question and were completed during the

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reporting period. In this case, the period is January 1, 1986 through June 7, 1987. All items were found not to constitute unreviewed safety questions. The format of this report is as follows:

SM/SPCN No. - In the report 10 CFR 50.59 items completed during the reporting period are listed by their station modification (SM) number or Station Procedure Change Notice (SPCN) numbers. For convenience of reference, these are each listed separately in ascending order. Associated design output packages (DOPs) and/or Voluntary Change Notices (VCs) are also given where applicable. Only those SMs/SPCNs that have an associated VC are reflected in this revision of the USAR.

Description of Change - A brief description of the change, test or experiment addressed by the change document.

Summary - The safety evaluation determination that the change, test or experiment does not involve an unreviewed safety question pursuant to the three criteria of 10 CFR 50.59(a)(2).

Should you require any additional information concerning this submittal, please do not hesitate to contact this office.

Very truly yours,

John D. Leonard, Jr.
Vice President - Nuclear Operations

MJG:ck

Enclosure

cc: R. Lo
W. T. Russell - Region I Administrator
F. Crescenzo

AFFIDAVIT

State of New York)
: ss:
County of Suffolk)

JOHN D. LEONARD, Jr., being duly sworn, deposes and says I am the Vice President, Nuclear Operations for the Long Island Lighting Company. That I am authorized on the part of said Company to sign and file with the U.S. Nuclear Regulatory Commission the foregoing Revision 1 of the Updated Safety Analysis Report for the Shoreham Nuclear Power Station. That the Updated Safety Analysis Report was prepared under my supervision and direction; and that the statements contained therein present to the best of my knowledge, information and belief, the facility, as it exists through June 7, 1987.

John D. Leonard, Jr.

Sworn to before me this
4th day of December 1987

LINDA A. CRATTY
NOTARY PUBLIC, State of New York
No. 4816267
Qualified in Suffolk County
Commission Expires March 30, 1988

AFFIDAVIT

State of New York)
: ss:
County of Suffolk)

JOHN D. LEONARD, Jr., being duly sworn, deposes and says I am the Vice President, Nuclear Operations for the Long Island Lighting Company. That I am authorized on the part of said Company to sign and file with the U.S. Nuclear Regulatory Commission the foregoing Revision 3 of the Fire Hazard Analysis Report for the Shoreham Nuclear Power Station. That the Updated Safety Analysis Report was prepared under my supervision and direction; and that the statements contained therein present to the best of my knowledge, information and belief, the facility, as it exists through June 7, 1987.

John D. Leonard, Jr.

Sworn to before me this
4th day of December 1987

LINDA A. CRATTY
NOTARY PUBLIC, State of New York
No. 4816267
Qualified in Suffolk County
Commission Expires March 30, 1989

SM 82-039 (DOT - N/A)

Description of Change

Replaced existing hip-height turnstiles in Security Building (Primary Access) with three(3) full-height turnstiles per Engineering and Design Change Request (E&DCR) F43108A.

Summary

I. No. Replacement of turnstiles is a Security related activity and does not involve plant operations or safety related equipment.

II. No. See I above.

III. No. See I above.

SM 82-042 (DOP - N/A)

Description of Change

Relocated solenoid valves 1N71-SOV-070 A,B, which control cooling water to the bearings of screen wash pumps 1N71-P-217 A,B, respectively, from outside the Screenwell Building to inside of the Screenwell Building. Engineering and Design Change Request (E&DCR) F-43078 recommends this change.

Summary

I. No. This modification does not affect or change any safety related equipment.

II. No. The relocation of the valves does not create any other circumstances not previously evaluated in the Safety Analysis Report (SAR).

III. No. This modification improves the functional operability of the valves by removing them from a corrosive environment and eliminating the associated unusually high rate of maintenance.

SM 83-006 (DOP 83-006) (VC-1038)

Description of Change

Replaced existing Fuel Pool Cleanup (FPCU) System filters (cartridge type - FL-005A,B) with a VACCO Filter System (etched disc type filters and associated backflush equipment). The existing system was modified to accommodate new filters. New process and control equipment were located in the Radwaste Building.

Summary

I. No. The Fuel Pool Cleanup System performs no safety function related to reactor operations and is not utilized to mitigate the consequences of an accident. The modification replaces existing equipment with equivalent qualified equipment of greater functionality and operability.

II. No. The function of the system is unchanged. The backflush capability increases operability features of the system without creating the possibility for an accident or malfunction of a different type than any evaluated previously in the SAR.

III. No. See I and II above.

SM 83-023 (DOP - N/A)

Description of Change

Installed a cross-connecting piping system between tanks in the Liquid Radwaste System. This new interconnecting piping provides additional system flexibility by allowing water to be pumped from the Waste Collector Tanks (TK-010 A,B) or the Floor Drain Collector Tanks (TK-061 A,B) to the recovery sample tanks (TS-069 A,B) either directly or via an auxiliary process skid. Mobile service, in the unlikely event of inoperability of in-plant equipment, is provided for through a 2" flanged pipe connection. (See E&DCR-4244 and 4244A for design of this station modification.)

Summary

I. No. This modification merely increases the flexibility of operation in pumping from the Waste Collection or Floor Drain Collection Systems to the Recovery Sample System and expedites mobile service, if required.

II. No. See I above.

III. No. This modification enhances the conditions of the Liquid Radwaste System operations.

SM 83-088 (DOP - N/A)

Description of Change

Changed the Circulating Water pump motor winding (stator) temperature alarm setpoint from 248°F to 285°F and shutdown alarm setpoint from 260°F to 300°F. E&DCR L-0082 governs this station modification.

Summary

I. No. The Circulating Water System is not nuclear safety related.

II. No. See I above.

III. No. See I above. The margin of safety, as defined in the basis for any Technical Specification, is not reduced.

SM 83-103 (DOP - N/A)

Description of Change

Modified platforms BS-23AP-50,-51 in the Reactor Water Cleanup (RWCU) Heat Exchanger Room by addition of structural steel to support temporary lead shielding that will be installed and used by personnel only during periodic maintenance activities on valves and unit coolers. The design adequacy of this station modification is covered by E&DCRs F-46004 and F-46004A and L-529 plus L-529A thru D.

Summary

I. No. The addition of the structural steel does not affect any system addressed in the SAR. The additional structural steel will not in any way cause a malfunction of safety related equipment.

II. No. The structural steel has been designed as a Seismic Category I structure and will not fail under postulated loading conditions.

III. No. Platforms are not addressed in Technical Specifications.

SM 83-124 (DOP - N/A)

Description of Change

Modified exciter field grounding relay circuitry in panel 1N51-PNL-EXC (Field Excitation System panel) by installing a normally closed contact of the 53 field flashing relay ahead of the connection point where the exciter field grounding detection relay is connected to the negative bus. This modification prevents activation of the Battery Ground Detection System through the field flashing circuit when the Exciter Field System breaker is closed and the exciter field ground detection circuit is in operation. (See E&DCR L-0177.)

Summary

I. No. Both the Exciter Field and Battery Ground Detection Systems are not safety related and do not affect the operation of any safety related system.

II. No. See I above.

III. No. See I above. The Exciter Field and Battery Ground Detection Systems are not addressed in the Technical Specifications.

SM 84-021 (DOP - N/A)

Description of Change

Removed and relocated the support leg of duct 1T47-DSA-152 (Drywell Cooling System) to eliminate an interference with the refueling radiation shield which is utilized during refueling operations. Drawing for implementation was E&DCR L-381. Also, see E&DCR F-30132.

Summary

I. No. The duct support and duct are non-safety related. The design basis of the system supported by the support has not been changed.

II. No. See I above.

III. No. See I above.

SM 84-043 (DOP 83-005)

Description of Change

Added a hard wired recorder playback capability to the Loose Parts Monitoring System (LPMS). The modification provides for convenient selection of audio playback channel.

Summary

I. No. The portions of the LPMS modified do not interface with safety related components. The design and installation of those portions of the LPMS which do interface with safety related components remains unchanged due to this modification.

II. No. This modification does not change the original intent of operation of the LPMS. The modification presents no additional safety question since the same design criteria was used for the modification as was used for the original balance of system.

III. No. No safety related function is performed. The modification does not change the design basis of the LPMS.

SM 84-061 (DOP N/A)

Description of Change

Eliminated the Service Platform Jib Crane hoist control. Engineering and Design Change Request (E&DCR) F46353 recommended this change.

Summary

I. No. The Jib Crane was previously eliminated, therefore, the Jib Crane hoist control is no longer in use. Modification is non-safety related.

II. No. Modification eliminated the use of the Jib Crane from the Service Platform but did not affect the operation of the Service Platform.

III. No. See I and II above.

SM 84-065 (DOP - N/A) (VC-1017)

Description of Change

Changed the setpoints of Reactor Building Closed Loop Cooling Water System pressure switches IP42-PS030A and B from 10" Hg vacuum to 10 psig and replaced the installed pressure switches with new ones with proper range. The modification corrected the setpoints of pressure switches to protect the M-G set fluid coupling cooler circulation water pumps IP42-P002A and B from abnormal suction pressure. (See E&DCR L-0532, 532A and B.)

Summary

I. No. The probability of occurrence or the consequences of an accident or malfunction of safety related equipment has not been increased because this modification mechanically protects pumps IP42-P002A and B from damage. These pumps do not perform any safety function.

II. No. The possibility for an accident or malfunction of a different type has not been created. The switches and pumps do not perform any safety function.

III. No. The margin of safety as defined in the basis of any Technical Specification has not been reduced because the pumps do not perform any safety function and the setpoint change does not affect the limits of operation of the Reactor Building Closed Loop Cooling Water (RBCLCW) System.

SM 84-111 (DOP - N/A)

Description of Change

Deleted six (6) remote position indicator switches (1M43-PNS-143, 144, 147A, 147B, 247 and 248), and their associated Control Room annunciator alarms for six (6) fire suppression deluge isolation valves. The affected isolation valves are sealed open, per NFPA Codes 13 and 15, and given periodic visual checks. (See E&DCR L-684 and L-684A thru C.)

Summary

I. No. The Fire Suppression System is non-safety related. This modification does not affect any safety related systems, components or structures.

II. No. See I above.

III. No. This modification in no way prevents the fire suppression equipment from performing as designed.

SM 85-012 (DOP 85-016) (VC-1052)

Description of Change

Added and relocated fire detectors (Smoke, Flame and Temperature Detector System 1R71) and the detection portion of Carbon Dioxide System to assure compliance with the detector spacing criteria as stated in NFPA-72E.

Summary

I. No. The addition and relocation of fire detectors in the QA Category I or II fire detection and protection systems does not affect safety related systems. The addition of duct detectors in safety related ventilation systems does not affect the systems' ability to perform their function as designed. Duct detectors mounted in safety related ventilation systems are seismically mounted.

The addition and relocation of detectors in the Q.A. Category I portion of the fire protection system will not affect the operation of the system. The modification will enhance the system's ability to perform its intended function.

The fire detection equipment and its associated raceway is seismically supported in safety related areas of the plant. Therefore, no additional increase in probability of an accident or malfunction of equipment important to safety has been created.

II. No. The function and design basis of the system is unchanged.

III. No. This modification does not reduce the capacity, method of operation, or design basis of any Category I equipment for any postulated accident, it improves the ability to detect fires in safety related areas.

SM 85-020 (DOP - N/A)

Description of Change

Modified the Plant Security System to improve the operating conditions of the system. Modifications, which satisfy commitments to the NRC and conformance with the Security Plan, include the following (see E&DCR L-733 thru L-735 and L-743):

a) replaced the power supply to two (2) Central Alarm System feeders with an uninterruptible power supply so that the Central Alarm System is unaffected by any plant power failure.

b) changed audible alarms for the Security computer from non-adjustable to adjustable volume control preset to an acceptable level, and removed computer failure audible alarm leaving the computer failure LED in place.

c) changed resistors and added capacitors at the sensor supervision board to eliminate false E-field and tamper alarms during periods of heavy usage of the Security Building turnstiles.

d) added an indicator lamp at the Secondary Access Facility to provide confirmation that the computer has read the entry/exit card reader action when logging in or out of the protected area.

Summary

I. No. The Security System is non-safety related, and these modifications do not affect the operation of any safety related system. The modification will increase the level of security. The modifications do not in any way degrade the level of security at the station.

II. No. See I above.

III. No. The Security System is not addressed in the Technical Specifications and there is no impact on any Technical Specification.

SM 85-031 (DOP 84-070)

Description of Change

Added a new pressure switch on the air discharge side of the Air Relay Dump Valve (ARDV) which vents air from the non-return valves (NRVS) provided in the Turbine extraction steam lines. The pressure switch actuates on decreasing air pressure and permits four (4) newly installed solenoid valves in the critical NRVS actuation circuits to more rapidly vent the air than is possible by bleeding through the ARDV. Added an auxiliary relay to each heater control panel, 1H31-PNL-HCP1 and HPC2, for the required contact multiplication purposes.

Summary

I. No. The modification is to non-safety related equipment. The non-safety related equipment is located in a seismic building and powered from a QA Category II power supply. The non-safety related equipment has no interaction with any safety related equipment. The probability of occurrence or the consequences of an accident previously evaluated in the Safety Analysis Report have not increased.

II. No. See I above.

III. No. The margin of safety, as defined in the basis for any Technical Specification, is not reduced.

SM 85-032 (DOP 84-260)

Description of Change

Relocated fire protection spray nozzles No. 20, 21, and 22 located in the Reactor Feed Pump "B" area to eliminate blockage being caused by 4" conduit.

Summary

I. No. This modification does not affect or change any safety related equipment.

II. No. This modification does not change the design basis of the system.

III. No. The functional operation of the Fire Protection System will be more efficient.

SM 85-033 (DOP 84-227) (VC-1016)

Description of Change

Eliminated the use of the Radwaste Steam Generator as a steam source to the Screenwell and instead provided Auxiliary Boiler steam by a piping modification. Modification is in response to IE Bulletin 80-010.

Summary

I. No. Modification is non-safety related and does not affect or interface with any safety related equipment. The modification eliminates the possibility of a potential uncontrolled and unmonitored release to the environment.

II. No. See I above.

III. No. See I above.

SM 85-046 (DOP - N/A)

Description of Change

Replaced existing thermal overloads on Drywell Air Cooling System fans 1T47-FN-011A thru D and 012A thru D and revised fan nameplate data. This replacement was required because fan blades, which had previously been changed, caused fan motor to draw more current. Engineering and Design Change Request (E&DCR) L-0337 recommended this change.

Summary

I. No. The Drywell Air Cooling System is non-safety related, as is the changed component. The changeout of the thermal overloads does not alter the operating characteristics of the Drywell Air Cooling System.

II. No. See I above.

III. No. The changeout of the thermal overloads will assure greater availability of the Drywell Air Cooling System fans.

SM 85-056 (DOP 83-032)

Description of Change

Removed two (2) installed Rosemount level transmitters (1G11-LT006 and 1G11-LT376), two (2) level switches (1G11-LS006 and 1G11-LS376), and the air pump regulator on the Evaporator Bottoms Tank in the Radwaste Cleanup and Filter System (G11). Replaced these components with one (1) ultrasonic- type level measuring system consisting of a transducer (1G11-LE006) and a controller (1G11-LTS006). Additionally, removable steel plates, used at the shield wall of 1G11-TK066 to allow access to the upper manway, were cut into quarters and reinstalled.

Summary

I. No. This modification is non-safety related and the non-safety related equipment has no interaction with any safety related equipment.

II. No. This modification does not add or alter any original design basis for the system.

III. No. No safety related equipment is affected by this change, and this modification in no way prevents the Evaporator Bottoms Tank from performing as originally designed. This modification provides a reliable and relatively maintenance-free level measuring system in a high radiation area.

The cutting of the steel plates into smaller sections allows easier removal and maneuvering when required.

SM 85-073 (DOP 85-105)

Description of Change

Replaced existing springs (Part #4-1KW1-ST-8) in vibration isolators supporting Turbine Building exhaust fans 1U41-FN-015A, -015B, and -015C with spring size "F40". Modified isolators to include pipe stub (1" long, 1 1/4" nominal size, schedule 80 pipe, tack welded to 1/2" x 3" x 3" bearing plate) which serves as a stop preventing any horizontal spring movement of the center.

Summary

I. No. The Turbine Building Ventilation and Station Ventilation Exhaust Systems are non-safety related and components being replaced/modified are QA Category II. The change replaced springs within isolator housings with higher load rated springs performing the same function. Modification does not prevent fans from functioning as originally designed.

II. No. See I above.

III. No. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because there is no applicable Technical Specification.

SM 85-078 (DOP 85-109)

Description of Change

Changed the control circuits of the Truck Bay/Post Accident Sampling Facility (PASF) airlock doors to eliminate repeated maintenance on the door solenoids. Additionally, mandoors P40-1 and P40-2 of the PASF, which provide entry into the Sample Cask/Collection area, were provided with door position indication.

Summary

I. No. This modification is non-safety related.

II. No. The system design has not been altered but rather has been upgraded. The system reliability has been increased.

III. No. There has been no change to Technical Specifications.

SM 85-080 (DOP 85-184)

Description of Change

Installed a thrust support restraint on the Service Water discharge piping on the "C" Chiller Condenser to preclude the potential for pipe separation at the joint when the pipe fills with water during start-up.

Summary

I. No. The change involves non-safety related equipment. The addition of a tie bar between the 1M60-WC-001C service water outlet flange and mitered elbow immediately downstream on line 1M60-10"-WS-341-136 prevents pipe pullout. The change enhances the joint design.

II. No. See I above.

III. No. The addition of the tie bar has no detrimental effect on the piping or its support. The change has no effect on the operation of the Main Chiller which is non-safety related.

SM 85-086 (DOP 85-134)

Description of Change

Provided an alternate source of water for Post Accident Sampling System (PASS) operation for cooling of the Sample Heat Exchangers and for dilution and flushing purposes in the unlikely event that condensate water may not be available. The changes involved the addition of a condensate water supply through newly installed surge tanks and associated piping.

Summary

I. No. The PASS does not affect the probability of occurrence of the accidents discussed in SAR Chapter 15. Because the PASS is a non-safety related system which is not involved in any accident analysis, the consequences of an accident previously evaluated in the SAR are not increased.

II. No. The PASS is not safety related and is isolated from safety related systems by double isolation valves which are only opened by action of the operator in the Main Control Room.

III. No. The modification does not eliminate any previously installed equipment. Therefore, a reduced margin of safety as defined in the bases for any Technical Specification does not exist.

SM 85-091 (DOP 85-188)

Description of Change

Modified the High Pressure Coolant Injection (HPCI) Turbine Control System to dampen the turbine acceleration transient on startup by adjusting the ramp generator/signal converter module and adding a bypass line with check valve around the EG-R hydraulic control actuator. Modification aids in precluding HPCI pump low suction pressure trips and HPCI turbine overspeed trips on startup.

Summary

I. No. Modification does not alter the design bases or operational characteristics of any safety related equipment.

II. No. Modification does not add to or alter the operating mode of the HPCI System.

III. No. Modification does not alter any operational parameters of the HPCI System or any other safety related system described in Technical Specifications.

SM 85-096 (DOP 83-073)

Description of Change

Replaced existing Reactor Core Isolation Cooling System (RCIC) turbine exhaust swing check valves with Y-Globe lift check valves as manufactured by Anchor-Darling Valve Company. Modified several existing test connections to accommodate the removal of existing supports. Adjusted several existing pipe supports to accommodate the modified piping.

Summary

I. No. The replacement of existing RCIC turbine exhaust swing check valves with Y-Globe lift check valves does not increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the SAR.

II. No. The possibility for an accident or malfunction of a different type than any evaluated previously in the SAR has not been created since the scope of work is basically replacement of the existing check valves with check valves of better design for improved operational performance. The replacement check valves have comparable physical parameters (size, weight, mounting configuration) to the original valves. The new check valves are specifically designed to improve system performance by elimination of premature check valve wear due to chatter and slamming during turbine exhaust steam flow.

III. No. The margin of safety as defined in the basis for any Technical Specification is not reduced.

SM 85-104 (DOP 85-191)

Description of Change

Relocated temperature elements 1T47-TE-011A, 011B, 023A, 024A, 024B, 024C, 024D, 027G, and 027L within the Drywell Temperature Monitoring System. Additionally, modified Control Room recorders 1T47-TRS010 and 020 such that the points 1T47-TE-024A through 024D no longer alarm. This modification corrected problems with the location of Drywell temperature elements and corrected the problem of masking Drywell high temperature alarm functions.

Summary

I. No. This relocation of temperature elements will monitor air temperatures in the vicinity of safety related equipment with a better representation.

II. No. This modification provides for an improvement to the design and operation of the existing plant system.

III. No. The margin of safety as defined in the basis for any Technical Specification is not reduced.

SM 85-105 (DOP 85-201, Rev. 1)

Description of Change

Provided enclosure plates and insulation to seal existing opening in the Reactor Building Primary (Biological) Shield Wall, which is safety related, to prevent the leakage path for air between the biological shield wall and the Reactor Pressure Vessel (RPV). The openings include: four (4) feedwater line openings; two (2) core spray line openings; two (2) small instrument line openings; and four (4) small access openings, one each, located above each of the feedwater lines.

Summary

I. No. Providing the enclosure only enhances the air flow distribution in the Annulus area between the RPV and the shield wall. The existing arrangement is not affected by the addition of the enclosures.

II. No. The enclosure configuration provides the same level of protection to the pressure boundary as the original configuration. In the unlikely event of a pipe break, the sheet metal enclosures have been designed to buckle in the open position, similar to the motion of a "swing-type" door. This mode of failure prevents any possibility of Annulus pressurization and potential formation of projectiles. The "blanket" type enclosures on the feedwater and core spray penetrations will easily disengage from their shield wall supports. They are made of pliable, but strong, material that will not fracture, tear apart or qualify as a projectile.

III. No. The margin of safety, as defined in the basis for any Technical Specification, is not reduced because the functional capabilities of the system has not been altered.

SM 85-106 (DOP 85-106) (VC-1040)

Description of Change

Installed a cross-tie in the Offgas System (1N62) to permit parallel operation of the cooler condensers. Offgas System "A" and "B" trains were cross connected at a point upstream of the cooler condensers with a 3" carbon steel pipe and two 3" flanged gate valves.

Summary

I. No. This system is non-safety related. Accidents, and their probability and consequences, previously evaluated in the SAR remain unchanged.

II. No. The cross-tie is a passive installation and does not create the possibility for an accident or malfunction of a different type not already addressed by the SAR.

III. No. The implementation of this modification does not result in any changes that would affect the basis of the Technical Specifications or their safety margins.

SM 85-107 (DOP 84-275) (VC-1039)

Description of Change

Added two (2) low temperature shut off control loops for the Primary Containment Inerting System, 1T24. Thermocouples 1T24-TE155 and TE156 were installed to provide inputs to temperature controllers 1T24-TC155 and TC156 and associated solenoid valves. Modification required installation of new electrical panels with circuit breakers and control relays, temperature switch junction boxes, conduits, cables, and appurtenances in the Reactor and Post Accident Sampling Facility Buildings.

Modification resulted from I&E Notice 84-17 and General Electric Service Information Letter SIL-402. Modification prevents nitrogen being introduced into the Primary Containment when the nitrogen intake temperature falls below 40°F.

Summary

I. No. No safety related equipment is involved in this modification and the probability of occurrence or the consequences of an accident previously evaluated in the SAR have not been increased.

II. No. The modification provides additional protection for components in the Primary Containment against brittle failure.

III. No. This modification does not affect Technical Specifications basis. By decreasing the potential for component failures within the Reactor Building, this modification actually increases the margin of safety for the Primary Containment.

SM 85-110 **(DOP 85-213)**

Description of Change

Modified Extraction Steam System pipe support 1N36-PSSH112 for line 1N36-14"-S3E-44-301M to ensure free thermal expansion of line 1N11-8"-SHP-70-901A-4 without any interference.

Summary

I. No. The modification resolves the impediments to thermal movement due to the interference between support 1N36-PSSH112 and line number 1N11-8"-SHP-70-4 and allows the support to function properly.

II. No. The modified support will continue to serve the same function as originally required.

III. No. The margin of safety, as defined in the basis for any Technical Specification, is not reduced. The new support configuration conforms to all previously existing design criteria and continues to service its originally designed function.

SM 85-111 (DOP 85-210)

Description of Change

Removed existing Core Spray piping lines constant spring hanger supports 1E21-PSSH-035-1, -2, and 1E21-PSSH-045-1, -2 (total of four (4) supports, Bergen- Patterson model CSH-B1A-9) and replaced them with Bergen-Patterson model 4000-B1A-R/2-11 constant spring hanger supports. This modification was implemented to eliminate a "topping out" condition that existed on the original constant spring hanger supports.

Summary

I. No. The replacement eliminates the possibility of the constant spring "topping out" and ensures unimpeded movement of line and spring can.

II. No. The new support configuration, with the replaced constant spring hanger support, serves to function as originally required. There is no degradation of the affected or any other system.

III. No. The new support configuration conforms to all previously existing design criteria and continues to serve its originally designed function.

SM 85-112 (DOP 85-225)

Description of Change

Modified pipe support 1P41-PSSP-951 for the "A" Service Water Loop on the 103 TDI Diesel by removing the upper snubber and baseplate and modifying the existing snubber and attaching it to the lower baseplate. This allows proper fit of the missile shield cover over the pit which includes the service water piping to the 103 TDI Diesel.

Summary

I. No. The modification eliminates the interference between the snubber and missile protection concrete cover and permits a proper fit of the cover.

II. No. The modified support serves to function as originally required.

III. No. The new support configuration conforms to all previously existing design criteria and serves its originally designed function.

SM 85-113 (DOP 85-171) (VC-1061)

Description of Change

Installed new busbars, current transformers, top-hat enclosures and cable terminations in Emergency Diesel Generator cubicles 101-4, 102-4, and 103-5, bifurcating the existing buses to provide a Class 1E power source for the new Colt Building loads.

Summary

I. No. The probability of occurrence or the consequences of an accident or malfunction of safety related equipment as previously evaluated in the Safety Analysis Report has not been increased because the modification involves the addition of non-moving components (busbars and current transformers) rigidly supported with the same electrical phase and ground clearances as the original Class 1E switchgear. The modification does not impact the seismic integrity of the switchgear cubicle since the addition is seismically qualified. The function of the switchgear to mitigate the consequence of an accident is not degraded. The capability of the plant to safely shut down is not adversely affected.

II. No. See I above.

III. No. The margin of safety as defined in the basis for any Technical Specification is not reduced because this modification does not affect the performance or operation of any safety related systems.

SM 85-114 (DOP 85-239) (VC-1042)

Description of Change

Removed pipe rupture restraint 1E11*PRR03A and modified pipe support 1E11-PSSH172 and an adjacent miscellaneous structural platform to permit unobstructed movement of Residual Heat Removal line 1E11-24"-WR-265/267-901A-1.

Summary

I. No. The pipe support and platform steel modification merely serve to eliminate the interference with no degradation of their design functions. The removal of the pipe rupture restraint is acceptable as defined by SAR Section 3.6.5.7A.

II. No. See I above.

III. No. The modified pipe support configuration, the modified platform configuration, with the removed rupture restraint, continue to conform to all previously existing design criteria.

SM 85-115 (DOP 85-102)

Description of Change

Replaced existing Meehanite (28% Ni) tubesheet on Reactor Building Service Water (RBSW) pump discharge strainer (strainers 1P41*S-001A-D) with a tubesheet of Monel.

Summary

I. No. The probability of failure due to corrosion is decreased by the change of tubesheet material from Meehanite to Monel.

II. No. The replacement of existing tubesheet with a tubesheet of better quality material improves operational performance.

III. No. Failure of a strainer is bounded by existing analysis and the operability of the RBSW pumps is not decreased by the change of material in the tubesheet.

SM 85-118 (DOP 85-226)

Description of Change

Replaced seven (7) Reactor Pressure Vessel (RPV) water level flex hose assemblies with rigid tube expansion loops to eliminate negative slopes on existing flex hose assemblies which potentially could cause water level indication discrepancies on Control Room indicators. The line numbers involved are:

1B21-1/2*K-124-IC-N9-2
1B21-1/2*K-125-IC-N9-2
1B21-1/2*K-125-IC-N9-4 Test Line
1B21-1/2*K-126-IC-N9-2
1B21-1/2*K-128-IC-N9-2
1B21-1/2*K-129-IC-N9-2
1B21-1/2*K-130-IC-N9-2

Summary

I. No. This modification has not altered the design basis or the operational requirements of the RPV water level instrumentation. The new rigid tubing is consistent with existing design requirements.

II. No. The replacement does not alter the function or failure modes of the RPV water level instrumentation.

III. No. The modification does not change any setpoints, add to or delete any design function of the RPV water level instrumentation. It will increase the accuracy and reliability of the instrument loops since propagation of error associated with unvented high points will be eliminated.

SM 85-119 (DOP 85-236)

Description of Change

Replaced existing vertical sliding Steam Seal Piping System pipe supports 1N33-PSS-048 and 1N33-PSS-226 located on the east side of LP turbine at El. 63'-0" with vertical sliding spring can supports. This modification was required to eliminate observed gaps between the sliding surfaces of the supports so that the support functions properly in carrying the design loads.

Summary

I. No. This modification eliminates observed gaps between the sliding surfaces of the supports so that the supports carry the design loads thereby allowing the supports to function properly.

II. No. The modified supports continue to serve the same functions as originally required.

III. No. The new support configurations conform to all previously existing design criteria and continue to service their originally designed functions.

SM 85-120 (DOP 85-237)

Description of Change

Replaced the existing series wire configuration in the Condensate Polishing Panel by rewiring the SOV neutral connections in the condensate polishing panel (1N52-PNL29). This modification eliminated the potential of deenergizing all of the Solenoid Operated Valves (SOV's) when lifting any one connection during maintenance activities. As a result of this modification, each SOV bank (total of 11) is now fed by two (2) parallel conductors, one at each end of each solenoid bank.

Summary

I. No. The equipment identified in this modification is not safety related and the rewiring does not alter or affect the operation of the equipment.

II. No. No equipment has been added, deleted, or functionally altered by this modification.

III. No. The functional capabilities of the system have not been altered. The modification will further reduce the possibility of a loss of feedwater event.

SM 85-123 (DOP 85-240)

Description of Change

This modification changed the existing Reactor Pressure Vessel (RPV) water level reference leg piping configuration. The modification specifically involved relocating condensing chambers 1B21*D-004 A and B and revising restraint configurations.

Summary

I. No. The modification has not altered the design basis or the operational requirements of the RPV water level instrumentation.

II. No. The modification does not alter the function or failure modes of the RPV water level instrumentation.

III. No. The modification does not change any setpoints, add to or delete any design functions of the RPV water level instrumentation. It increases the accuracy and reliability of the instrument loops since propagation of error associated with density changes in the reference leg is reduced with the reduction of vertical drop inside the Primary Containment and the location of the two condensing chambers at the same elevation.

SM 85-124 (DOP 83-050)

Description of Change

Installed permanent pressure indicators in the discharge piping associated with the Diesel Drive Fire Pump (P-58) and the Motor Driven Fire Pump (P-59). The indicators (1M43-PI267 and 268, respectively) were installed to eliminate temporary test gauges used during functional testing of the pumps.

Summary

I. No. This modification does not involve safety related equipment and there is no interaction with any safety related design.

II. No. See I above.

III. No. The added gauges provide for improved functional testing.

SM 85-125 (DOP 83-033) (VC-1044)

Description of Change

Installed a Corium Ring. This ring provides a means to direct the molten fuel and reactor vessel into the Suppression Pool in the unlikely event of certain severe accidents. The ring has the added benefit, during CRD work/maintenance, in that it will direct reactor water from under the vessel directly into the Suppression Pool further minimizing radiological hazards.

Summary

I. No. The Corium Ring is a passive component and performs no safety function to achieve hot or cold shutdown. The consequences of certain postulated severe accidents are reduced by this modification.

II. No. The design of the concrete ring meets Seismic Category I design criteria.

III. No. The margin of safety as defined in the basis for any Technical Specification is not impacted.

SM 85-126 (DOP 85-267)

Description of Change

Modified the capscrews which attach the hinge support assemblies to the bonnets of various Anchor Darling swing check valves (1E11*16V0020A, B, C, D in the Residual Heat Removal System; 1E41*18V0021, 1E41*18V0022, 1E41*16V0001, and 1E41*16V0002 in the High Pressure Coolant Injection System) by lockwiring the two hinge support assembly capscrews together.

Summary

I. No. The addition of the lockwire will not change system operability. Valve reliability will be increased.

II. No. See I above.

III. No. The modification will increase valve reliability and hence overall system reliability.

SM 85-128 (DOP 85-190)

Description of Change

Replaced Barton bellows type dp indicator (1B21-PDI006) for Reactor Jet Pump head - total core flow indication with Rosemount dp transmitter (1B21-PDT006) to avoid transmitting pressure spikes resulting in reactor scram. The modification also involved relocating the instrument manifold to preclude the potential of RPV draindown during instrument calibration.

Summary

I. No. Modification corrects the location of instrument manifold to prevent draining the Reactor Pressure Vessel (RPV) "B" variable leg during instrument calibration. Replacement of differential pressure instrument eliminates the spurious reactor scram signals.

II. No. Failure modes of the new instrument are identical to those of the instrument being replaced.

III. No. The modification does not change any instrument setpoints or control actions, nor does it add to or delete from any design functions of the instrument involved.

SM 86-002 (DOP 84-214)(VC-1053)

Description of Change

Modified the Reactor Recirculation Pump speed control logic circuit so that all three limiter #1 inputs seal-in and require manual reset when the runback input is removed.

Summary

I. No. This system is not safety related and the existing interrelations to safety related equipment is unchanged. This modification has no effect on the probability of any failure already discussed in the SAR.

II. No. This change is an improvement to the existing design.

III. No. This is an improvement to the functional operation which is not addressed by Technical Specifications.

SM 86-004 (DOP 85-247)

Description of Change

Replaced the actuator mechanism springs on flow control valves 1N21-FCV-028A and B in the Reactor Feed Pump Recirculation System with springs that will permit the valves to open fully. In addition, to prevent backing out of cap screws for the shield plates on each valve, the cap screws are lock welded.

Summary

I. No. No safety related equipment is involved in this change.

II. No. See I above.

III. No. See I above.

SM 86-005 (DOP 85-286)

Description of Change

Replaced the oxygen analyzer sensor, 1Z96-02Z-147, in the Post Accident Sampling System (PASS) with a new high pressure, radiation resistant sensor and installed a 3/8" isolation valve on the inlet side of the sensor. Replaced the installed Swagelok fittings for the sensor with Autoclave fittings. Replaced the regulating valves (1Z96-01V-0015 and 0016), which regulate air-flow through the Germanium detector shield and the Victoreen radiation monitors, with fine control valves. Modified the PASS control panel mimic diagram by relocating 1Z96-AOV-027 and 030 to reflect as-built conditions.

Summary

I. No. Modification does not alter the design bases or operational characteristics of any safety related equipment.

II. No. See I above.

III. No. Modification only upgrades the system performance.

SM 86-006 (DOP 85-152)(VC-1010,-1041)

Description of Change

Installed a sight level (gage) glass, flat armored type with top and bottom shut-off valves and blowdown valve, on the Salt Water Drain Tank (1G11-TK-190) to allow operator to ascertain the liquid level in the tank. The level glass is designated 1G11-LG-001.

Summary

I. No. Potential failures associated with this installation do not increase the probability or consequences of an accident previously evaluated in the SAR and it does not violate any design bases.

II. No. The Salt Water Drain Tank is non-safety related and the sight glass will not interfere with the operational capabilities of the tank nor with other equipment important to safety.

III. No. The operational functions of the tank remain unchanged by the addition of a sight level glass.

SM 86-007 (DOP 85-272)

Description of Change

Replaced the existing four(4) General Electric main steam pipe drain lines from 1" schedule 80, socket welded piping to 1 1/2" schedule XXS butt weld piping and modified existing pipe supports to compensate for increased diameter and weight of new piping. Change also included deletion of in-line strainers S-064A and B, and deletion of restricting orifices RO-055A and B. This modification was performed to comply with GE Engineering Change Notice T309-057 in eliminating fatigue failures of small pipes and attachments to main steam pipes on GE nuclear turbines.

Summary

I. No. Equipment involved in this modification is not, nor does it interface with, safety related equipment.

II. No. See I above.

III. No. See I above. No Technical Specifications are involved.

SM 86-008 (DOP 85-200)

Description of Change

Modified the generator neutral flexible connection on the Isolated Phase Bus (IPB) of the main turbine generator, and upgraded hardware to conform with the same design as the phase bus connections. Braided connections and increased sized nuts were used to decrease the bearing area and thereby eliminate damage to braided connections and buses. Modification was performed in order to meet the General Electric recommended torque values used to attach the flexible connectors between the IPB duct and the Main Generator.

Summary

I. No. This modification is not safety related and does not alter or affect the operation of the equipment.

II. No. No equipment has been added, deleted or functionally altered by this modification.

III. No. The functional capabilities of the system have not been altered.

SM 86-013 (DOP 85-288)

Description of Change

Replaced the installed Steam Seal Evaporator level transmitter (1N21-LT-015), manufactured by Fisher, with a Magnetrol Series 82 level transmitting system. This replacement was necessitated by the failure of the Fisher transmitter which cannot be repaired and is no longer available through Fisher.

Since the Magnetrol system has built-in switch relays, level switches 1N21-LS-015X and Y have been deleted. The Magnetrol transmitter is identified as mark number 1N21-LTS-015 and the probe as 1N21-LE-015.

Summary

I. No. Replacement of the originally supplied Steam Seal Evaporator level transmitting system with a functionally equivalent system has no effect on any safety-related systems, components or structures.

II. No. The failure modes of the new level transmitting system are identical to the failure modes of the original system.

III. No. No setpoints or design functions of any systems, components or structures have been altered by this replacement.

SM 86-014 (DOP 85-253)

Description of Change

Installed two moisture separators in the Radwaste Offgas Treatment System 1% hydrogen analyzer panel (1N62-PNL-640). One moisture separator was installed between valve 1N62-PCV-346 and analyzer 1N62-H_2Z-321A, and the other was installed between valve 1N62-PCV-356 and analyzer 1N62-H_2Z-321B. Also removed insulation from sample lines 1N62-1/2ARV-158-ICN9 and IN62-1/2 ARV-160-ICN9 from the outlet of valve 1N62-AOV-318A & B to the sample line penetrations in the ceiling of the "B" Recombiner Room.

Summary

I. No. The components involved in this modification are non-safety related. Changes made to the system will improve the reliability of the analyzers.

II. No. The functional requirements and design basis of the system remain unchanged.

III. No. The basis for Technical Specifications remains the same.

SM 86-019 (DOP 85-129) (VC-1015)

Description of Change

Installed structural steel supports for mounting microwave antenna dish on the penthouse roof of the Office Building Annex.

Summary

I. No. Modification does not affect and has no interaction with any safety related equipment.

II. No. See I above.

III. No. See I above.

SM 86-021 (DOP 85-185) (VC-1060)

Description of Change

Replaced the two(2) existing High Pressure Coolant Injection (HPCI) turbine exhaust 18" swing check valves, 18V-0021 and 18V-0022 with two(2) new Y-globe lift check valves manufactured by Anchor-Darling Valve Company. Internally modified new valves to increase the structural integrity of the disc/skirt assembly in order to satisfactorily absorb the impact forces present due to disc/body slam during turbine quick starts and low flow conditions. Strengthened the disc/skirt assembly by the addition of gusset plates. In addition, modified, added, and/or removed associated pipe supports to accommodate the revised loads.

Summary

I. No. Replacement of the original HPCI turbine exhaust check valves with equally qualified valves of improved design does not alter or affect in any way the operation of the system in which the valve is installed.

II. No. Replacement valves have relatively comparable physical parameters (size, weight, mounting configuration) to the original valves. Modification provides the same level of protection to the pressure boundary as the original configuration.

III. No. Functional capabilities of the system have not been altered.

SM 86-022 (DOP 85-233)

Description of Change

Replaced the Reactor bottom head drain line flow indicator transmitter (1G33-FT-001) (0-150" WC Rosemount) with a 0-750" WC Rosemount transmitter to provide higher range capability.

Summary

I. No. The performance characteristics of the replacement equipment are equal or better than the original equipment.

II. No. Replacement is identical in form, fit and function to original.

III. No. Equipment does not perform a safety function.

SM 86-024 (DOP 86-033)

Description of Change

Removed shield plates located on both sides of High Pressure Coolant Injection (HPCI) control panel 1JB*581 to enhance airflow through the panel. Shield plates, originally intended to protect internal components from Beta radiation, are no longer needed due to the gasketing of doors to the Motor Control Center (MCC) room in which the panel is located.

Summary

I. No. Removal of plates restores the HPCI panel to its original design configuration. The panel is designed to withstand the anticipated radiation levels in the MCC room without the shield plates installed.

II. No. The removal of the shield plates improves the reliability and operability of the system by eliminating the potential for increased temperatures within the panel due to restricted air flow. This will reduce the aging effects of higher temperature.

III. No. This modification does not impact Technical Specifications.

SM 86-025 (DOP 85-053)

Description of Change

Wired a white indication light to each of the reserve station supply transformer voltage sensing circuits to provide Operations personnel with operational status indication (energized or deenergized). Indication lights were mounted on their respective circuit breaker cubicle doors of Emergency Buses 101, 102 and 103.

Summary

I. No. Modification does not alter the design bases or operational requirements of the Class 1E circuits involved.

II. No. The function of the Class 1E circuits involved remains the same, and the modification neither adds to nor changes the failure modes of these circuits.

III. No. The margin of safety remains unchanged since the addition of the indicating lights to monitor circuit status neither enhances nor detracts from the existing margin of safety.

SM 86-028 (DOP 85-193)

Description of Change

De-energized valves 1N62-PCV-105A and B in the Radwaste Offgas Treatment System causing them to fail open. This modification was implemented to alleviate problems during system startup, where valve cycling caused the loss of loop seals due to pressure spikes. Valves were de-energized by isolating the instrument air supply to the valves' positioners and venting the valves' operators.

Summary

I. No. The components involved in this modification are non-safety related.

II. No. The changes in this modification will increase system operability and reliability during startup. System performance beyond the startup condition will be monitored by the Plant Staff Systems Engineering Section to ensure the operability and reliability of the system is not affected by this modification during operation.

III. No. See I and II above.

SM 86-029 (DOP 85-211)

Description of Change

Bolted previously unbolted Control Room panels to their adjacent panels. Bolting was performed by using field fabricated plates bolted to existing lug holes and/or additional drilled holes.

Summary

I. No. Modification of these panels has no effect on potential accident initiators and does not significantly impact the seismic design/response spectra of the panels. The modification does not impact the function of safety related equipment.

II. No. The modification increases panel reliability while system design and operation are unaffected.

III. No. Modification of these panels enhances their reliability by reducing potential "slapping" of panels.

SM 86-032 (DOP 86-021)

Description of Change

Replaced the pinned seismic supports for the four Reactor Building Service Water Pumps with structural steel bolting to both reduce the resonant amplification occurring at pump operating speed and prevent excessive bearing wear.

Summary

I. No. This replacement improves the operability and reliability with no adverse effect on safety.

II. No. This modification does not add to, or alter the failure modes of any safety related equipment.

III. No. This modification does not alter any operational parameters of any safety related equipment from those stated in the SAR.

SM 86-036 (DOP 85-141)(VC-1025)

Description of Change

Replaced existing combination fire/pressure door R-63-1, which provides access and egress from the Reactor Building secondary containment to the Turbine Building at El. 63'-00", with two single function doors. A new pressure door was installed on the Turbine Building side, and a new fire door installed to replace existing R-63-1 on the Reactor Building side.

Summary

I. No. Replacement of door does not alter the original design basis nor operational requirements of the door.

II. No. Door functions, purpose and failure modes remain unchanged.

III. No. See I and II above.

SM 86-038 (DOP 84-150)

Description of Change

Cleared the interference associated with three fire suppression sprinkler heads in the Auxiliary Boiler Room by relocation of sprinkler head or obstruction. This modification cleared the blockage of sprinkler heads by the following means:

a) redesigned the piping leading to and away from, and relocating sprinkler head previously over tank 1M43-TK-153. This removed sprinkler head from blockage by tank,
b) relocated a lighting fixture to clear blockage of sprinkler head located over 1M41-P100B; and
c) relocated sprinkler head previously over gage panel 1M41-P-97B to clear blockage caused by a pipe run.

Summary

I. No. Equipment involved is non-safety related in a non-safety related area.

II. No. Safety related equipment has not been modified nor does modification interface with safety related equipment.

III. No. No condition/requirement/equipment addressed by Technical Specifications has been changed or interfaced with.

SM 86-039 (DOP 85-010)(VC-1012)

Description of Change

Installed additional, redundant Main and Auxiliary Hoist brake contactor in parallel with the existing brake contactors on the Reactor Building Polar Crane.

Summary

I. No. The addition of redundant brake contactors to the control circuits of the Main and Auxiliary Hoist of the Reactor Building Polar Crane increases the reliability of the crane.

II. No. The new contactors are equivalent to the existing contactors.

III. No. See I and II above.

SM 86-040 (DOP 86-096)(VC-1021)

Description of Change

Added a loading ramp constructed of Dolomite granite trap rock in the Intake Canal so that equipment can be loaded directly from/to barge without using a crane.

Summary

I. No. No safety related equipment is involved in this design modification. The design basis of the Intake Canal is not affected by the addition of the loading ramp.

II. No. The modification involves non-safety related equipment. The ramp will withstand all design basis accidents/events as the canal itself.

III. No. No safety related equipment is involved in this modification. The design parameters established for the Intake Canal are not impacted.

SM 86-041 (DOP 85-290)

Description of Change

Removed air flow straighteners from three flow elements (1U41-FE-081A, -082, and -085) in the Turbine Building Exhaust System.

Summary

I. No. Flow straighteners were utilized to smooth out the flow upstream of the flow elements to provide a unidirectional velocity profile for more accurate flow measurement. The straighteners are non-safety related.

II. No. See I above. Corrections factors are utilized to take into account inaccuracies in sampling and flow measurement in the station vent flow element FE-085. Accurate flow measurement from FE-081A and -082 is not required in the Turbine Building Ventilation exhaust because Turbine Building effluents are measured by the station vent (FE-085).

III. No. Turbine Building exhaust ducts, radiation monitors, and station vent will function as designed. Flow elements will function with more reliability (due to less flow straightener clogging) and less maintenance and downtime will be be experienced.

SM 86-042 (DOP 84-125)

Description of Change

Relocated the wintergreen odorizer vial in the Normal Switchgear Room CO_2 Fire Protection System to a more accessible location.

Summary

I. No. Equipment involved in this modification is non-safety related, located in a non-safety related area. The equipment does not interface with safety related equipment.

II. No. See I above.

III. No. See I above.

SM 86-043 (DOP 86-055)

Description of Change

Reinforced existing Residual Heat Removal (RHR) support 1E11-PSA-5349, a support on a 3/4" test line off the shut down cooling suction line, by welding a diagonal brace and a cover plate to the vertical cut (open) TS 4 x 4. Modification increases the stiffness of the existing support in order to minimize the potential of natural frequency participation of the support due to (RHR) pump running vibration excitation.

Summary

I. No. Modification does not alter the pipe support function, but reduces the participation of the test connection pipe with the pump induced vibration and therefore improves the margin against fatigue.

II. No. The modified support continues to serve the same functions as originally designed.

III. No. The modified support configuration conforms to all previously existing design criteria and continues to serve its originally designed function.

SM 86-044 (DOP 85-107)

Description of Change

Installed a raised sill on the N62 Offgas Glycol Supply cooling skid to prevent glycol leakage from entering the high conductivity floor drain and contaminating radwaste water.

Summary

I. No. The modification is non-safety related. The raised sill will not affect the operability/reliability of the Offgas Treatment System.

II. No. See I above. The sill is a passive component to control path of glycol leakage away from drain.

III. No. Technical Specifications are not affected.

SM 86-046 (DOP - N/A)

Description of Change

Repositioned stop-check valves 1N33-MOV-039 A, B, C and D which are intended to provide a steam blanket to the Moisture Separator Reheaters and prevent backflow. As previously installed, the valves prevented functioning of steam blanket capability. This station modification covers change per Engineering Change Request (ECR) #H-00143.

Summary

I. No. The Moisture Separator System and associated equipment are non-safety related and modification does not impact safety related systems.

II. No. See I above.

III. No. See I above. This modification corrects system to perform as designed.

SM 86-047 (DOP 83-039)

Description of Change

Replaced the existing Teflon seats and seals installed in 138 ball valves of the Reactor Building Service Water System (RBSW) (1P41) with new ultra-high molecular weight polyethylene seats and seals. The new seats and seals are more suitable during post-accident conditions, where the potential for a high radiation environment could exist.

Summary

I. No. The design function and operability requirements of the valves has not changed.

II. No. The replacement uses a more reliable material for the intended service which meets all the service design parameters.

III. No. The Reactor Building Service Water (RBSW) System functions as originally designed.

SM 86-048 (DOP 86-048)

Description of Change

Corrected the annunciation alarms for the Main Generator core overheating monitors to alarm when the core monitor is in the alarm state. Previously, annunciator points 0169 (1H11*MCB-01 Generator Core Overheat) and 4565 (N43-PNL-109 Core Monitor) were alarming when the GE main generator core monitor (1N45-XE-800) was in the normal mode. Conversely, the annunciators were not alarming when the core monitor was in the alarm state.

Summary

I. No. The modification is to non-safety related equipment and does not affect or have interaction with any safety related equipment. Correction returns alarms to originally designed conditions.

II. No. See I above.

III. No. See I above.

SM 86-051 (DOP 84-309)

Description of Change

Added a new two-way pipe support restraint (1P43-PSR-1800) and repaired existing support (1P43-PSS-179) on the Turbine Building Closed Loop Cooling Water (TBCLCW) System to minimize excessive lateral vibration caused as a result of normal system operational excitation coupled with a 35 foot run of laterally unrestrained pipe.

Summary

I. No. The TBCLCW System is non-safety related and modification does not interact with safety related systems, components, or equipment.

II. No. The modification increases system reliability by mitigating possible fatigue damage.

III. No. See I and II above.

SM 86-052 (DOP 84-230)(VC-1043)

Description of Change

For the purpose of load reduction on Emergency Diesel Generator-103, installed a selector switch and two indicating lights at the Main Control Board Division III Service Water Pump panel section. Electrically wired both 1P41*P003C and 3D pump start circuits to modify the automatic start feature such that only the pump selected will auto-start.

Summary

I. No. This change only affects one of three divisions and decreases the probability of safety related equipment malfunction by lowering the maximum emergency service load below the 3300 KW qualified load of the engine.

II. No. The design basis for the Service Water System has not been changed.

III. No. There is no change to any basis for Technical Specifications

SM 86-055 (DOP 86-094)

Description of Change

Added four (4) 42 inch diameter manways and modified one (1) 24" diffuser port to provide access into the offshore diffuser of the Main Condenser Circulating Water Discharge System for inspection, cleaning, and maintenance purposes.

Summary

I. No. No safety related equipment is involved in this change.

II. No. Modification does not interface with safety related equipment.

III. No. See I and II above. There is no impact upon plant conditions or safety related analyses by this modification.

SM 86-060 (DOP 85-270)

Description of Change

Rerouted pipe lines 1G11-3"-CRW-10-151-4 (Drywell equipment drain pump discharge piping) and 1M43-2 1/2"-F-118- 121A-4 (Fire Protection System), and conduit 1CX70INS (Test Cable Conduit) to avoid interference with replacement High Pressure Coolant Injection (HPCI) turbine exhaust check valves (see SM 86-021) which are longer end-to-end and require greater pull space for maintenance. Additionally, pipe supports IM43-PSR 039 and 1G11-PSA 1752 were modified to accommodate the modified piping configuration.

Summary

I. No. The design bases of the affected systems have not changed. The modification is to non-safety related systems.

II. No. See I above. The modification involves only minor rerouting of piping and conduit.

III. No. System design has not changed.

SM 86-068 (DOP 85-212)

Description of Change

Removed and replaced existing Drywell-Suppression Chamber vacuum breaker closed position switches (total 12, R.B. Denison type) with General Electric switches. Associated activities included fabrication of new mounting assemblies, and installation of a 10K ohm 1.5 watt resistor in parallel with each switch contact to make the General Electric switches electrically compatible with the control logic in Control Room panel 1H11*PNL-MXP.

Summary

I. No. Replacement of the existing position switches with a qualified substitute does not alter or affect in any way the operation of the system in which the position switch is installed.

II. No. No equipment has been added, deleted, or functionally altered by this modification.

III. No. The functional capabilities of the system have not been altered.

SM 87-001 (DOP 86-176)

Description of Change

Installed a backwater flap valve on the 6" equipment drain header inside manhole No. 31. The valve will permit drainage to flow out of the Emergency Diesel Generator rooms 101 and 103 into the manhole, but will not permit flooding of the Emergency Diesel Generator rooms due to backflow through the Equipment Drainage System.

Summary

I. No. The affected system is non-safety related. Modification provides an additional protective device for flood protection of safety related equipment.

II. No. Modification eliminates the potential backflow of equipment drainage system into E.D.G. rooms 101 and 103.

III. No. Modification enhances the flood protection features for safety-related equipment.

SM 87-003 (DOP 87-003)

Description of Change

Eliminated interference between pipe support 1B21*PSR-5443 which supports Safety Relief Valve 1B21*RV-092C on the Nuclear Boiler SRV Accumulator Discharge Line, and shield wall door N2F which prevents the shield wall door from opening greater than ninety degrees (90°). Pipe support was modified by reducing its overall length.

Summary

I. No. The shortening of pipe support has no impact on the design or support function to associated piping. Pipe supported by this support remains at same location and elevation as when originally designed and installed.

II. No. No new components have been added to or existing components deleted from the plant as a result of this modification.

III. No. Component modified is not required to satisfy any condition or event described in the Technical Specifications.

SM 87-006 (DOP 83-088)(VC-1030, -1031 Suppl)

Description of Change

Modified Main Steam Isolation Valve (MSIV) closure setpoints by installing four (4) new slave trip units, one (1) at each of the analog trip panels 1H21*PNL101 A, B, C, and D. These slave units identified as 1B21*LS-155A, B, C, and D, receive their inputs from the existing wide range master trip units 1B21*LIS-155A, B, C, and D. The master trip units will maintain a Level 2 setpoint to other nuclear steam supply shutoff systems and the slave trip units have the Level 1 setpoint for MSIV closure. Existing installed spare cables are used from analog trip panels to Reactor Protection Systems panels 1H11*PNL-609 and 1H11*PNL-611.

This change is a result of a commitment made to the NRC. It is also addressed by the BWROG in the evaluation of NUREG-0737, item II.K.3.16. The modification lowers the reactor pressure vessel water level isolation setpoint for MSIV closure from Level 2 to Level 1.

Summary

I. No. The modification does not involve a significant increase in the probability or consequences of an accident previously evaluated because this modification reduces the probability of accidents due to challenges to safety relief valves and analyses demonstrate that the consequences of this modification of loss of feedwater transient and large and small break LOCAs are not significant.

II. No. The modification does not create the possibility of a new or different kind of accident from any accident previously evaluated because the equipment utilized is equal to design, function and qualifications of existing equipment and the effects of the change are encompassed by existing accident analyses.

III. No. The modification does not involve a significant reduction in any margin of safety because the analyses demonstrated that the design parameters affected are not significantly reduced.

The NRC was notified by SNRC-816 of the intent to implement this modification and that it would not impact the safe operation of the plant. The NRC acknowledged this modification in the SNPS SER (NUREG-0420), Supplement No. 4, with no unresolved outstanding issues.

SM 87-007 (DOP 85-140)(VC-1050)

Description of Change

Added the Anticipated Transient Without Scram - Alternate Rod Insertion (ATWS-ARI) function, as a redundant back-up system, to the electrical Reactor Protection System (RPS) Rod Insertion System. Revised logic to include: manual initiation, control room annunciation of the intent to manually initiate, control room annunciation of initiation (manual or automatic), circuit seal-in to prevent automatic reset, and manual reset provisions. In addition, the 10 second timing relay setpoint was changed to 30 seconds.

Summary

I. No. This modification improves the back-up system by allowing the accident signal to be sealed-in, assuring that the solenoid valve venting the SCRAM air header is allowed enough time to blow down the air and activate the SCRAM. The 30 second delay insures that no manual reset is possible prior to that elapsed time, therefore eliminating human error from interfering with the back-up system function. Control Room indication provides the operator with ATWS-ARI System status.

II. No. This is an improvement to the RPS System reliability.

III. No. Modification does not affect the limits of operation of any safety related system.

SM 87-009 (DOP 85-285)(VC-1040)

Description of Change

Modifications to sample lines and heat tracing, and installation of moisture separators in lines for panels 1D11-PNL-015 (Offgas Sample Panel), 1D11-PNL-051 (Air removal Pump Radiation Monitor Panel), and 1N62-PNL-640 (Hydrogen Analyzer, 1%, Panel) were made to minimize the accumulation of moisture in the sample panels.

Summary

I. No. Modification is to non-safety related systems and no safety related systems are affected.

II. No. Modification increases system reliability by mitigating possible moisture entrapment.

III. No. Modification enhances system reliability.

SM 87-015 (DOP 86-179) (VC-1035)

Description of Change

Increased Standby Liquid Control System (SLCS) injection capability by the use of highly enriched sodium pentaborate. Made required changes to tank level alarm setpoints, temperature switch setpoint for automatic heater operation and tank temperature alarm setpoints, and reduced the setpoint for the SLCS pump suction piping heat tracing.

Summary

I. No. The highly enriched sodium pentaborate is chemically the same as the natural pentaborate. The use of enriched pentaborate does not require substantial modification of the SLC System.

II. No. See I above.

III. No. The enriched pentaborate net tank volume and concentration ranges have been specified to adhere to the Technical Specifications of the shutdown basis for the plant. The use of enriched pentaborate increases the margin of safety associated with the injection rate.

SM 87-026 (DOP 87-042)(VC-1064, 1065)

Description of Change

Changed the power supply to Anticipated Transient Without Scram - Alternate Rod Insertion (ATWS-ARI) trip contact interface circuit from 120 VAC Division I and II sources with emergency diesel generator backup to 120 VAC Division I and II uninterruptible power supply available in the same panels 1H21*P102A, B. The change of power supply to the uninterruptible power source eliminates any potential delay associated with the recovery of power at the emergency buses during a loss of offsite power.

Summary

I. No. The probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the Safety Analysis Report is not increased by this modification because this modification provides a more reliable power supply and eliminates any potential delay in ARI operation caused by the starting time requirement of the diesel generators during a loss of offsite power event.

II. No. The possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report has not been created.

III. No. The margin of safety as defined in the basis for any Technical Specification has not been reduced because this modification uses the uninterruptible power supply which is more reliable.

SPCN 86-0125

Description of Change

This procedure change, a revision to existing procedure SP23.418.01, "HVAC Reactor Building", enables the operator to jumper and bypass interlock functions for Containment venting during abnormal operation for non-design basis accidents (i.e., ATWS). The change initially vents the Containment from the Suppression Pool and, if necessary, through the Drywell. The revision is necessary to incorporate the known benefits of venting the Primary Containment prior to an uncontrolled rupture of containment.

Summary

I. No. This is a conservative action which does not jeopardize the plant's design basis nor does it increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the SAR.

II. No. This change does not create a possibility for an accident or malfunction of a different type than any evaluated previously in the SAR.

III. No. This is a contingency action used to mitigate potential events not contained in the design basis of the plant. Given a condition which can theoretically cause the rupture of the Primary Containment, it is more prudent to vent the Containment in a controlled and isolatable manner. This change is in conformance with Revision 4 of the GE BWROG emergency guidelines.

SPCN 86-0206

Description of Change

This change to STP 71, "Residual Heat Removal System", deleted the requirement to test the Residual Heat Removal System in the steam condensing mode. Change was executed to conform to license condition 2.C.10 of Facility Operating License NPF-36.

Summary

I. No. The probability of occurrence or the consequences of an accident or malfunction of safety related equipment as previously evaluated in the SAR is not increased by this procedure change.

II. No. See I above.

III. No. The margin of safety as defined in the basis for any Technical Specification is not reduced.

SPCN 86-0652 (relating to SPCN 86-2464)

Description of Change

The change to SP61.010.03, "Health Physics Postings and Signs," was implemented to reflect the exact wording of 10 CFR 20.203 in that Health Physics postings and signs which previously had read "Danger High Radiation Area" were changed to read "Caution High Radiation Area". Additionally, written definition for proper use of "Internal Contamination" stickers was provided, and the "roping-off" of high radiation areas, located in areas where no enclosure exists or could be reasonably constructed, was clarified.

Summary

I. No. The change involves only the wording of field postings and related definition/clarification to Health Physics activities.

II. No. See I above.

III. No. See I above.

SPCN 86-0930

Description of Change

This procedure change to EPIP 5-7, "Emergency Response Organization", added new organizational positions to the Emergency Response Organization, updated personnel qualifications, and added respirator qualification to those positions reporting to the OSC.

Summary

I. No. The Emergency Preparedness Plan is referenced in Chapter 13 of the SAR. However, the addition of positions and qualification requirements of personnel does not constitute or involve a change in the Technical Specifications incorporated in the license or a change in the facility as described in the SAR.

II. No. See I above.

III. No. See I above.

SPCN 86-1272 (relating to SPCN 86-0967, 86-0968, 86-0981)

Description of Change

SPCN 86-1272 revised and clarified the station organization and personnel responsibilities identified in SP12.002.01, "Station Organization and Personnel Responsibilities," and SP12.003.01, "Qualifications and Certification of Personnel Performing Safety Related Work". Changes to procedures included incorporation of the Fire Protection and Safety Section and the Contracted Maintenance Services Section into the station organization. Guidelines for the succession of responsibility and alternates to Section Heads were included. The revised procedures also include the responsibilities associated with each plant position.

SPCN 86-0967, -0968, -0981, revised procedures SP39.500.01, "Organization and Administration of Fire Protection Program," SP39.500.02, "Fire Brigade Organization, Response, Practice and Drills," and SP12.500.01, "Fire Protection Program Description," to reflect existing conditions as a result of the establishment of the Fire Protection and Safety Section. Responsibilities of the Fire Protection Program Manager remain unchanged.

Summary

I. No. This was an administrative change which does not decrease the level of fire protection in the plant nor does it affect safe operation of the plant. The procedural text changes were made to define the responsibilities of the sections and plant personnel and serves to enhance the program implementation.

II. No. See I above

III. No. See I above

SPCN 86-2096

Description of Change

This change converted the "Colt Diesel Generator Test Program" temporary procedure, TP86.307.01, to a station procedure. The testing of the Colt Emergency Diesel Generators is currently ongoing and will continue through the tie-in to the main plant during the first refueling outage.

Summary

I. No. Governing station procedures require the periodic review and appropriate disposition of temporary procedures. Upon review and recommendation of the Review of Operations Committee, and in accordance with Station Procedure 12.006.01, "Station Procedure Preparation - Review, Approval, Change, Revision, and Cancel,"the temporary procedure was required to be retained and reclassified as a station procedure. This change does not impact the SAR or Technical Specifications.

II. No. See I above.

III. No. See I above.

SPCN 86-2576

Description of Change

This procedural change to SP29.024.01, "Transient with Failure to SCRAM," directed the operator to open MSIVs by utilizing jumpers in an event (such as ATWS) where the design basis has already been violated.

NOTE: This procedure change was subsequently cancelled by SPCN 87-0377, issued March 2, 1987. SPCN 87-0377 instituted SP 29.024.01 as it was prior to SPCN 86-2576.

Summary

I. No. This was a conservative action which did not jeopardize the plant's design basis nor did it increase the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the SAR.

II. No. This change did not create a possibility for an accident or malfunction of a different type than any evaluated previously in the SAR.

III. No. This was a contingency action which, when required, would have allowed the operator to regain control of reactor power by reducing core flow to limit the natural circulation driving head. This would have reduced and stabilized reactor power and reduced the heat being generated and directed to the Suppression Pool. This action would have been of a conservative nature and would have been used to recover from the design basis accident already in progress.

SPCN 86-2828

Description of Change

This is a new Temporary Station Procedure TP25.002.01, "Control Room Panel In-Situ Modal Testing Procedure", which provides direction for performing in-situ modal testing of Control Room panels in order to develop the in-cabinet acceleration response spectra to define the seismic environment.

Summary

I. No. The subject test involves an induced vibration in Control Room cabinets and does not violate the seismic design of the cabinets.

II. No. See I above.

III. No. The test will induce a 0.03g - 0.04g acceleration into the cabinet for data collection purposes. This level of acceleration is one order of magnitude less than the acceleration for which the cabinets were designed. The test will not cause spurious operation of systems and/or components.

SPCN 87-0302, 87-0303, 87-0747, 87-0748

Description of Change

SPCN 87-0302 adds a new procedure SP73.018.10, "Standby Liquid Control Concentration Adjustments", to address the use of Boron-10 enriched sodium pentaborate in the Standby Liquid Control System (SLCS). SPCN 87-0303 adds a new procedure SP74.123.10, "Standby Liquid Control System Sampling and Concentration Determination," for sampling and concentration determination.

SPCN 87-0747 implements a change in SP23.123.01, "Standby Liquid Control", in reference to the new procedure SP73.018.10.

SPCN 87-0748 affects SP22.008.01, "Operational Surveillances", by revising the temperature of the SLCS pumps suction piping from 75°F to 65°F to accommodate the use of Boron-10 enriched sodium pentaborate in accordance with SM 87-0015.

Summary

I. No. See SM 87-0015.

II. No. See SM 87-0015.

III. No. See SM-87-0015.

SPCN 87-0474

Description of Change

This procedure change to SP23.713.01, "Solid Waste System," reflects changes which have been made in the Shoreham Process Control Program (PCP) which is used to control processing of solid radwaste for eventual shipment to a burial site. The PCP was revised to allow use of a proven vendor supplied mobile solidification system. The mobile facilities satisfy industry and regulatory standards and are generally used throughout the industry.

Summary

I. No. The SPCN revises the ATCOR Engineering Systems Inc. operating procedure to preclude use of the system for solidification (ATCOR is the vendor which supplied Solid Waste System). This brings procedures into compliance with the PCP. The change does not preclude operation of ATCOR system for maintenance, repair, or testing of the installed system. Further work to make the system operable can progress in an orderly manner while allowing solid radwaste to be solidified. The mobile facilities do not negatively affect the safety of the plant, but do in fact improve the safety of the waste solidification process.

II. No. See I above.

III. No. See I above.

SPCN 87-0528, 87-0529, 87-0640, 87-0997

Description of Change

Revised SP 23.650.01, "Nuclear Steam Supply Shutoff System (NSSSS)", 23.621.01, "Reactor Vessel Water Level", 23.116.01, "Main and Auxiliary Steam", and 44.621.10, NSSSS-RPV Low Low and Low Low Low Water Level Response Times Test", respectively, to make these Station Procedures consistent with SM 87-006 which lowered the reactor pressure vessel water level isolation setpoint for MSIV closure from Level 2 to Level 1.

Summary

I. No. See summary for SM 87-006.

II. No. See summary for SM 87-006.

III. No. See summary for SM 87-006.

SPCN 87-0532 (relating to SPCN 87-0641, 87-0798, 87-0877)

Description of Change

These changes to Station Procedures SP23.611.01, "Reactor Protection System (RPS)", SP24.611.01, "Reactor Protection - Manual SCRAM Functional Tests", SP29.024.01, "Transient with Failure to SCRAM", and SP29.023.02, "Cooldown", address the implementation of SM 87-007 (the ATWS-ARI function) in the following areas: revised alarm description for alarm nos. 1200, 1201, and 1202; revised procedures to include alarm 1169 and provided descriptive note; revised procedures to include ATWS-ARI full scram steps; added scram reset instructions for ATWS-ARI; revised power supply checklist to include ATWS-ARI components and system logic; replaced existing event specific ATWS procedure with symptom-oriented ATWS procedure which includes the latest BWROG guidance; and revised cooldown procedure to incorporate ATWS interfacing steps.

Summary

I. No. See SM 87-007.

II. No. See SM 87-007.

III. No. See SM 87-007.

SPCN 87-0662 (relating to SPCN 87-1095, 87-1057)

Description of Change

The changes to Station Procedure SP23.119.01, "Reactor Core Isolation Cooling System (RCIC)", provide direction and guidance on how to reset/bypass low RPV pressure isolation of RCIC. This bypass operation utilizes existing controls on the RCIC benchboard and would only be performed in extremis.

Summary

I. No. In the event this bypass operation becomes necessary (i.e., RCIC is the sole RPV makeup source at high and low reactor pressure), the operator would have to have already lost low pressure ECCS as well as condensate and feedwater. This bypass would allow RCIC to operate at pressures below 57 psig when it alone is available for injection. This condition is clearly beyond the requirements of the General Design Criteria of Appendix A to 10 CFR 50 and is a contingency action used to mitigate potential events not contained in the design basis of the plant.

II. No. See I above.

III. No. See I above.

SPCN 87-0773 through SPCN 87-0783

Description of Change

These procedure changes to Station Procedure SP22.001.01, "Startup - Cold Shutdown to 20%", SP23.116.01, "Main and Auxiliary Steam", SP23.203.01, "Core Spray System (CSS)", SP24.203.03, "Core Spray System (CSS) Venting and Valve Lineup Verification", SP23.121.01, "Residual Heat Removal System (RHR), SP24.116.02, "Main and Aux Steam Valve Operability Test", SP24.121.03, "LPCI/Suppression Pool Cooling Valve Line-up and LPCI Piping Venting Verification", SP24.121.02, "RHR System Valve Operability Test", SP23.709.01, "Reactor Water Cleanup System (RWCU)", SP22.005.01, "Shutdown from 20% Power", and SP24.203.02, "Core Spray Valve Operability Test", were implemented to reflect the de-energizing of valves 1B21*MOV-083, 1G33*MOV-037, 1E21*MOV-081 A & B, 1E11*MOV-052, 1E11*MOV-081 A & B, to meet Regulatory commitments.

Summary

I. No. The probability of occurrence or the consequences of an accident or malfunction of safety related equipment as previously evaluated in the SAR is not increased by the procedure changes. The changes were executed to fulfill LILCO's May 22, 1986 (SNRC-1262) commitment to the NRC to eliminate the potential high/low pressure interface LOCA due to the above valves in the event of a spurious signal.

II. No. See I above.

III. No. See I above.

SPCN 87-1001

Description of Change

Added a new procedure SP #25.001.01, "Procedure for Bypassing Interlocks During Emergency Conditions".

Summary

I. No. The procedure is necessary to give instruction to the operators on how to bypass interlocks during specified degraded accident conditions outside of Chapter 15 analyses. In all cases, the interlocks are only bypassed during conditions for which the interlock was not designed. This procedure in and of itself does not authorize the bypassing of interlocks but merely provides the instructions on how it is to be done when and if the operator is so directed during unlikely emergencies beyond the design bases of the plant.

II. No. See I above.

III. No. See I above.